

L Number	Hits	Search Text	DB	Time stamp
1	7	((("6482584") or ("D461248") or ("5899939") or ("6123731"))).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 07:49
2	8	((("6482584") or ("D461248") or ("5899939") or ("6123731") or ("6613278"))).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:02
4	4	wo-0040177\$.did. or wo-0029037\$.did. or wo-9938543\$.did. or wo-0054821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:05
5	4	wo-00/40177\$.did. or wo-00/29037\$.did. or wo-9938543\$.did. or wo-00/54821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:08
6	7	wo-200040177\$.did. or wo-200029037\$.did. or wo-9938543\$.did. or wo-200054821\$.did. or wo-9909914\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:09
7	16	((("6025538") or ("5814084") or ("6090998") or ("5676700") or ("6200347"))).PN.) or (wo-200040177\$.did. or wo-200029037\$.did. or wo-9938543\$.did. or wo-200054821\$.did. or wo-9909914\$.did.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:41
8	109	(maglione.xp. or mcdermott.xp.) and heparin	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 10:43
9	6	(maglione.xp. or mcdermott.xp.) and heparin and (smith-chalin\$.xa.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 09:28
10	1371	maglione.xp. or mcdermott.xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 10:43
11	772	prebilib\$.xa,xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:08
12	780	preb\$.xa,xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:10
13	0	623/23.51,23.56,23.63	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 11:41
14	275	(623/23.51,23.56,23.63).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:31
15	756	(623/17.11,17.16).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:49
16	1012	((623/23.51,23.56,23.63).CCLS.) or ((623/17.11,17.16).CCLS.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:53
17	7732	pin same bone	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:54

18	37	pin same bone and 623/\$.ccls. and preb\$.xp.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:54
3	10	(("6025538") or ("5814084") or ("6090998") or ("5676700") or ("6200347")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/10/30 13:58
19	21	("2621134" "4135506" "4512038" "4553272" "4950296" "4964865" "5084051" "5152791" "5201771" "5314478" "5354300" "5397362" "5674286" "5728157" "5769897" "5820581" "5876453" "5899939" "5916585" "5989289" "6025538").PN.	USPAT	2003/10/30 13:58
20	8	6200347.URPN.	USPAT	2003/10/30 14:02

EAST Browser - L16: (1012) 14 or 15 | US 4950296 | Tag: S.T1 | Doc: 777 (SORTED/FILTERED) | "Full" 1/4 (Total Images 4)

File Edit View Tools Window Help

	Document ID	KSc	Issue	Pa	Title
1	US 6638309 B2	U	20031028	17	Method of
2	US 6379385 B1	U	20020430	5	Implant of
3	US 20020035401	U	20020321	15	Osteogenic
4	US 20020029084	U	20020307	42	Bone impl
5	US 6146420 A	U	20001114	12	Osteogenic
6	US 5861041 A	U	19990119	11	Interverte
7	US 4950296 A	U	19900921	4	Bone graft

United States Patent (19) **Patent Number: 4,950,296**
McIntyre [43] **Date of Patent: Aug. 21, 1990**

[34] **BONE GRAFTING UNITS** 4,694,464 5/1987 Mirmineier et al. 623/16
 4,478,470 7/1987 Nishizaki et al. 623/16
 4,743,236 5/1988 Brantigan 623/16 X
 4,834,737 5/1989 Brantigan 623/16 X

[76] **Inventor: Jonathan L. McIntyre, 2384 Grove View Rd., San Diego, Calif. 92139**

[21] **Appl. No.: 343,746**

[22] **Filed: Jan. 13, 1989**

Related U.S. Application Data
 [63] **Continuation-in-part of Ser. No. 179,282, Apr. 7, 1988, abandoned.**

[31] **Int. Cl.** A61F 2/28
 [32] **U.S. Cl.** 623/16; 606/76
 [38] **Field of Search** 623/16, 66, 17; 128/92 R, 924 R, 924 Q, 924 R, 924 S, 606/69, 70, 76, 86

[56] **References Cited**
U.S. PATENT DOCUMENTS
 1,844,801 11/1974 Ma et al. 623/17 X

FOREIGN PATENT DOCUMENTS
 3803367 6/1986 Fed. Rep. of Germany 623/16
 1309975 5/1987 U.S.S.R. 623/16

Primary Examiner—Alan Carlson
Attorney, Agent or Firm—Baker, Matham, Jester & Masador

ABSTRACT
 A bone grafting unit comprises a cortical shell having a selected outer shape and size for transplanting and a cavity formed therein for receiving a cancellous plug, and a cancellous plug fitted into said cavity in a manner to expose at least two surfaces thereof to the exterior of said shell.

15 Claims, 1 Drawing Sheet

10/30/03 Best Art subclass search

EAST Browser - L7 - (16) 3 of 6 | WO 9909914 A1 | Tag: S | Doc: 13/16 (SORTED) | "Full" 49/60 (Total images 60)

File Edit View Tools Window Help

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

	Document ID	Class	Issue No	Page	Title
1	WO 200029037 A	D	20030902	33	Apparatus
2	US 20020016592	D	20030724	51	Cortical k
3	EP 876129 B	D	20030516	11	Diaphysial
4	US 6090998 A	D	20021205	15	Implant, fo
5	US 6200347 B1	U	20010313	48	Composite
6	WO 200054821 A	D	20000921	52	Molded imp
7	US 6090998 A	U	20000718	15	Segmentall
8	US 6200347 B	D	20000713	48	Composite
9	US 6025538 A	U	20000215	16	Compound k
10	US 6025538 A	D	20000215	16	Compound k
11	WO 9938543 A2	AE	19990805	37	BONE PASTE
12	US 20020018796	D	19990805	13	Implantabl
13	WO 9909914 A1	E	19990304	60	CORTICAL
14	US 5814084 A	U	19980929	11	Diaphysial
15	US 5676700 A	U	19971014	8	Interlocki
16	EP 709070 A	D	19960501		Interlocki

WO 99/09914

PCT/US98/17769

14 / 22

	Document ID	KSc	Issue No	Page	Title
1	US 6638309 B2	U	20031028	17	Method of us
2	US 20020120346	U	20020829	25	Demineralize
3	US 20020035401	U	20020321	15	Osteogenic i
4	US 20020029084	U	20020307	47	Bone implant
5	US 20010041942	U	20011115	7	Novel compos
6	US 20010002446	U	20010531	11	Tissue graft
7	US 4950296 A	U	19900821	4	Bone graftin

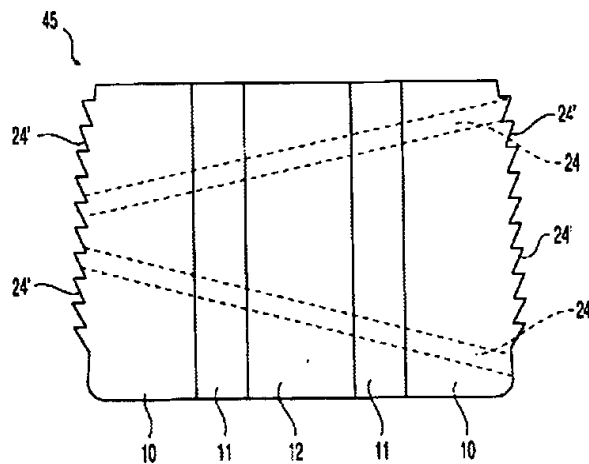


Fig. 2C

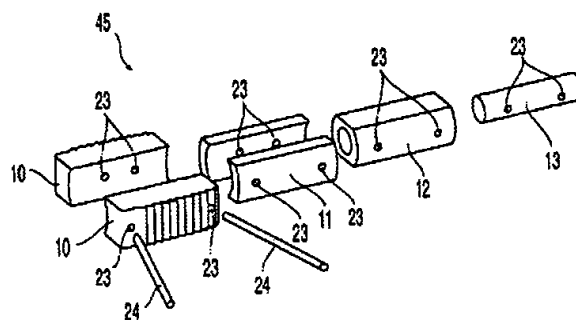


Fig. 2D

	Document ID	KSc	Issue	Pa	Title
1	US 6635087 B2	U	20031021	23	Laminoplasty
2	US 6632247 B2	U	20031015	31	Implants for
3	US 6595998 B2	U	20030722	38	Tissue distr
4	US 6554863 B2	U	20030429	14	Intervertebr
5	US 6494883 B1	U	20021217	10	Bone reinfor
6	US 6458144 B1	U	20021001	13	Methods for
7	US 6387130 B1	U	20020514	15	Segmented li
8	US 6379385 B1	U	20020430	5	Implant of b

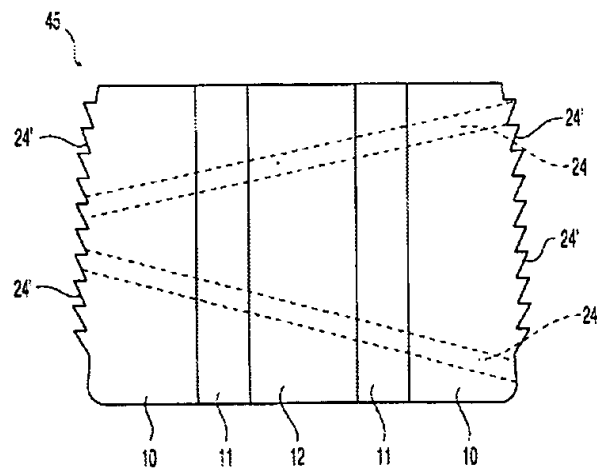


Fig. 2C

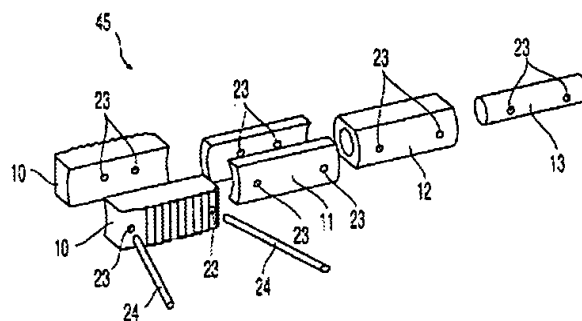


Fig. 2D

	Document ID	Kind	Issue Date	Page	Title
1	US 5329846 A	U	19940719	19	Tissue pre
2	US 5397365 A	U	19950314	12	Composite
3	US 5496372 A	U	19960305	54	Hard tissu
4	US 5522895 A	U	19960604	6	Biodegrade
5	US 5522894 A	U	19960604	14	Bone repla
6	US 5545222 A	U	19960813	19	Method usi
7	US 5591233 A	U	19970107	14	Metal/com
8	US 5645592 A	U	19970708	13	Use of hyc
9	US 5662710 A	U	19970902	16	Tissue pre
10	US 5769897 A	U	19980623	10	Synthetic
11	US 5800544 A	U	19980901	35	Tendon and
12	US 5888219 A	U	19990330	16	Method of
13	US 5899939 A	U	19990504	8	Bone deriv
14	US 6005162 A	U	19991221	7	Methods of
15	US 6017366 A	U	20000125	8	Resorbable
16	US 6027534 A	U	20000222	10	Modular el
17	US 6065476 A	U	20000523	11	Method of
18	US 6080192 A	U	20000627	34	Tendon and
19	US 6113640 A	U	20000905	12	Reconstruc
20	US 6123731 A	U	20000926	14	Osteoimpla
21	US 6132472 A	U	20001017	16	Tissue pre
22	US 6190414 B1	U	20010220	19	Apparatus
23	US 6217620 B1	U	20010417	11	Reinforcin
24	US 6290725 B1	U	20010918	16	Modular el
25	US 6294041 B1	U	20010925	13	Method for
26	US 6342051 B1	U	20020129	6	Treatment
27	US 6361565 B1	U	20020326	16	Expandable
28	US 6387131 B1	U	20020514	5	Knee prost
29	US 6436138 B1	U	20020820	12	Process fo
30	US 6458160 B2	U	20021001	7	Knee prost
31	US 6503277 B2	U	20030107	17	Method of
32	US 6517579 B1	U	20030211	10	Method and
33	US 6527803 B1	U	20030304	18	Intersomat
34	US 6585771 B1	U	20030701	7	Device for
35	US 6616698 B2	U	20030909	16	Bone graft
36	US 6630000 B1	U	20031007	19	Method of
37	US 6638309 B2	U	20031028	17	Method of



US005800544A

United States Patent (19)

Demopoulos et al.

(11) Patent Number: 5,800,544
(45) Date of Patent: Sep. 1, 1998

[54] TENDON AND LIGAMENT REPAIR SYSTEM

FOREIGN PATENT DOCUMENTS

[73] Inventor: Gregory A. Demopoulos, Mirror Island, Wash.; Stephen A. Tenche, Stamford, Calif.; David A. Herria, Seattle, Wash.; Neil G. McDevine, Seattle, Wash.; Michael D. Nelson, Seattle, Wash.; Milton R. Sigelmann, Seattle, Wash.; Jose T. V. de Castro, Newton, Mass.; George Selecanian, Martinehead, Mass.; John Collins, Ipswich, Mass.; Immanuel Azis, Stamford, Calif.; Germ Bressner, Providence, R.I.

0 320 177 A1 12/1992 European Pat. Off.

OTHER PUBLICATIONS

Boyatzis, M.D. and Fedale, P.D. The basic science of anterior cruciate ligament surgery. *Orthop. Rev.* 22:673-679 (1993).
Hoffmann, M.W. et al. Repair and reconstruction of the anterior cruciate ligament by the "sandwich technique". *Arch. Orthop. Trauma Surg.* 112:113-120 (1993).
Lazovic, D. and Meszner, K. Collagen repair seal (improved by fibrin adhesive). *Acta Orthop. Scand.* 64:383-386 (1993).
Lyons, R.M., et al. Ultrastructural differences between the cells of the medial collateral and the anterior cruciate ligaments. *Clin. Orthop.* 279-286 (1991).

(List continued on next page.)

[73] Assignee: Censuro Medical Systems, Inc., Seattle, Wash.

[21] Appl. No.: 547,311

[22] Filed: Dec. 4, 1995

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 349,328, Dec. 2, 1994, abandoned.

[51] Int. Cl.⁶ A61F 2/08

[52] U.S. Cl. 623/13; 623/11; 606/53

[58] Field of Search 623/11, 13; 606/53

[56] References Cited

U.S. PATENT DOCUMENTS

3,124,136 3/1964 Usher
3,176,316 4/1965 Bodell
3,545,008 12/1970 Bodet, Jr.
3,646,613 3/1972 Ness
3,805,300 4/1974 Tancos-Alonso et al.

(List continued on next page.)

Primary Examiner—Paul B. Preblich
Attorney, Agent, or Firm—Christensen, O'Connor, Johnson & Kindness PLLC

[57] ABSTRACT

The damaged portion of an injured tendon or ligament (C) ("connective cord") is inserted into a thin, hollow sleeve (100, 110, 120, 130, 140, 160, 180, 240, 260, 270, 300, 390, generically designated "S") and is connected to the sleeve (S) such that the cord-sleeve combination can immediately withstand normal tensile forces, the interconnection can be mechanical, such as by pins (22, 27, 148, 150, 164, 188, 190, 206, 206', 210, 226, 230, 238, 239, 266, 286, 308) extending through the sleeve (S) and cord (C). The sleeve (S) can be bioabsorbable over a sufficiently long period of time that the cord (C) is healed by the time the sleeve (S) is absorbed.

179 Claims, 19 Drawing Sheets

